

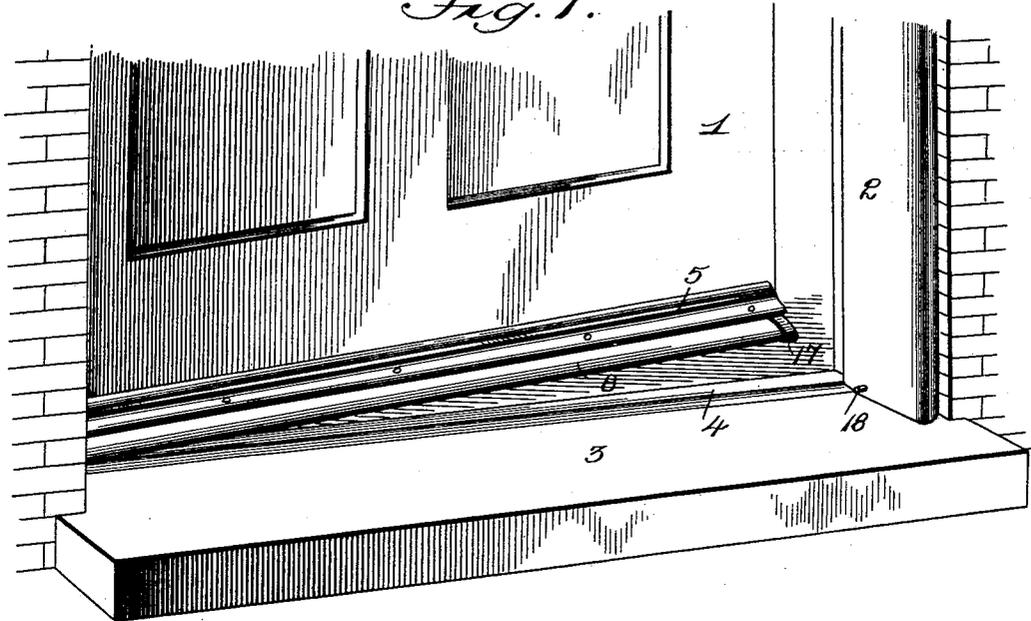
(No Model.)

H. W. WARD.  
WEATHER STRIP.

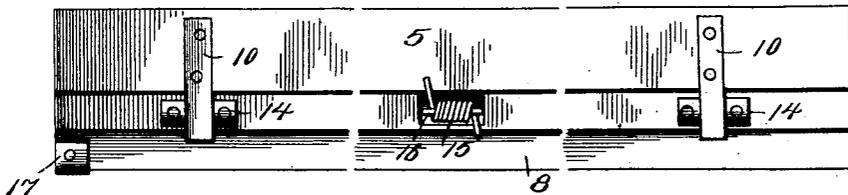
No. 587,893.

Patented Aug. 10, 1897.

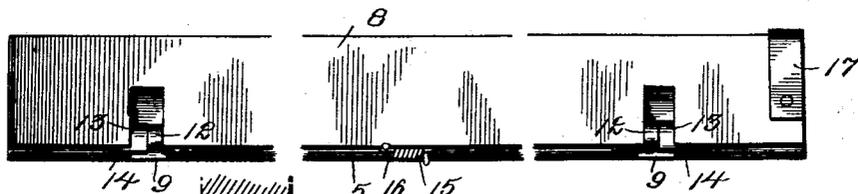
*Fig. 1.*



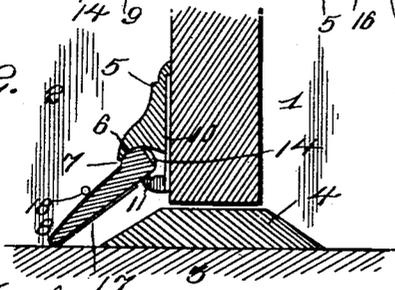
*Fig. 3.*



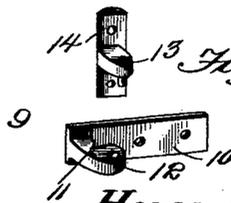
*Fig. 4.*



*Fig. 2.*



*Fig. 5.*



Witnesses

*H. J. Booth*  
*P. M. Smith*

By his Attorneys,

*Cash & Co.*

Inventor

*Henry W. Ward,*

# UNITED STATES PATENT OFFICE.

HENRY W. WARD, OF CHICAGO, ILLINOIS.

## WEATHER-STRIP.

SPECIFICATION forming part of Letters Patent No. 587,893, dated August 10, 1897.

Application filed December 26, 1895. Serial No. 573,363. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY W. WARD, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Weather-Strip, of which the following is a specification.

My invention relates to weather-strips of that class wherein a movable member is yieldingly held in an elevated or retracted position out of contact with the sill, and is adapted to be forced positively into contact with the sill when the door by which the device is carried is closed; and the object in view is to provide a neat, inexpensive, and efficient device of simple construction wherein the means for mounting the movable member are concealed when the fixed member or molding is attached to the door, and, furthermore, to provide efficient means for limiting the upward or retracting movement of the movable member to prevent the straining of the same and of the means whereby it is mounted.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claim.

In the drawings, Figure 1 is a perspective view of a weather-strip constructed in accordance with my invention applied in the operative position to a door. Fig. 2 is a vertical transverse section of the same. Fig. 3 is a rear view of the weather-strip detached from the door. Fig. 4 is an inverted plan view of the weather-strip. Fig. 5 is a detail view in perspective of the hinge members disconnected. Fig. 6 is a detail sectional view showing the hinge members and contiguous portions of the molding and movable member to show the cooperation between the hinge members in limiting the retractile movement of the movable member.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a door, 2 a frame, 3 a door-sill, and 4 a threshold-strip by which the application of the weather-strip embodying my invention is shown. The weather-strip comprises, essentially, a stationary member or molding 5 of such a length as to extend the

entire width of the door, with its extremities abutting against the jambs of the door-frame when the door is closed, and adapted to be secured to the outer surface of the door by means of screws or equivalent fastening devices, and a movable member or leaf 8, of which one edge, which, for convenience, I will term its "inner" edge, is hinged and is arranged under and contiguous to the fixed member or molding.

In order to form an approximately air-tight joint between the two members of the strip, the lower edge of the fixed member, which is preferably widened, as illustrated clearly in Fig. 2, is concaved to form a seat 6, while the inner edge of the movable member is rounded or convexed to form a bead 7, which fits snugly in the seat 6. A spring 15, fitted upon a pin 16, arranged in a central cavity of the movable member, bears terminally against the fixed and movable members, respectively, and exerts a constant upward pressure upon the movable member to raise its free outer edge out of contact with objects contiguous to the lower edge of the door, as illustrated in Fig. 1. Hence when otherwise released the outer edge of the strip is elevated to allow it to pass freely in either direction (as in closing or opening a door) over the threshold-strip.

Various means may be employed for depressing the outer edge of the strip when the door reaches its closed position, but a simple and efficient device is that shown in the drawings, consisting of a pin or stud 18, projecting laterally from and secured to the lock-jamb of the door-frame, the leaf 8 being provided at one end with a shoe or wear-plate 17 for contact with said pin.

This being the general construction of the weather-strip forming the subject-matter of my invention, I will now proceed to describe a preferred form of hinge-joint which performs the double function of mounting the movable member upon the fixed member (whereby the two are permanently connected for sale as a single article of manufacture adapted to be applied to a door without disconnection or change of adjustment) and of "stopping" or limiting the upward or retractile movement of the movable member under the tension of the return-spring 15 above de-

scribed. This peculiar hinge 9 comprises a molding member consisting of a base-plate 10, countersunk in and flush with the rear surface of the fixed member or molding of the strip and provided at its lower end, which projects below the lower edge of said fixed member, with a forwardly-extending lug terminating in a hinge-eye 12, and a leaf member having a base or securing plate 14, which is countersunk in and flush with the inner edge of the movable member and is provided with a forwardly or outwardly projecting lug or ear 13, terminating in a hinge-pin for engagement with said hinge-eye. The inner edge of the movable member or leaf is cut away to form a cavity contiguous to each hinge, and into this cavity project side by side the two lugs carried, respectively, by the fixed and movable members of the weather-strip. The width of each cavity is approximately equal to the combined thicknesses of the two lugs which fit therinto, whereby the walls of the cavity assist in preventing lateral vibration of the hinge members, and hence the hinge members must be united by the fitting of the hinge-pin in the hinge-eye before the lugs are introduced into the cavity, and hence before the base-plate 14 is secured to the edge of the leaf. After the plate 14 has been secured to the edge of the leaf the members of the weather-strip are firmly connected, and while the leaf is capable of vertical vibration at its outer edge accidental dismounting of said movable member is prevented.

The base-plate 14 obviously spans or extends across the mouth of the cavity in which the lug or ear 13 is arranged, and as the hinge-eye extends under the base-plate 14, in order to enter said cavity at one side of the lug 13, it is obvious that during the elevation of the free outer edge of the link the lug or ear which terminates in the eye 12 is arranged in the path of the plate 14 and hence forms a stop to limit the elevation of the outer edge of the leaf. In order to allow sufficient elevation of the outer edge of the leaf, I preferably notch the lug or ear which terminates in the eye 12, as shown at 11.

From the above description it will be seen that during the swinging of a door provided

with a weather-strip embodying my invention the contact of the free edge of the strip with an obstacle will not strain the hinges, but will be resisted by the positive contact of the members of the hinge, of which the lugs or ears project in a common direction, to arrange one of said lugs or ears in the path of a lateral plate on the other lug or ear.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

A weather-strip comprising a fixed member or molding provided in its lower edge with a seat, a movable member or leaf provided at its inner edge with a bead to fit in said seat and also provided at intervals in said inner edge with parallel-sided cavities, hinges each comprising a molding member having a base-plate let into the rear surface of the molding, and a forwardly-projecting lug or ear terminating in a hinge-eye within the contiguous cavity of the leaf, and a leaf member having a securing-plate, let into the inner edge of the leaf and spanning said cavity above the plane of the ear or lug of the molding member, and a forwardly-projecting lug terminating in a hinge-pin engaging said hinge-eye, whereby said securing-plate is adapted to contact with the lug or ear of the molding member to limit the elevation of the free edge of the leaf, and also whereby the lugs or ears fit side by side within the cavity in the leaf to prevent accidental disengagement of the hinge pin and eye, a spring for yieldingly holding the free edge of the leaf in its elevated position, and means for positively depressing the free edge of the leaf into contact with a door-sill, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

HENRY W. WARD.

Witnesses:

LOUIS C. KEIFER,  
G. E. MARTHA.